



EPA Region 5 Records Ctr.



317170

April 10, 2008

Mr. Ross del Rosario  
U. S. EPA - Region 5 (SR-6J)  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

**Re: Sauget Area 2 Site – October 3, 2002 Unilateral Administrative Order (UAO) Groundwater Operable Unit  
Monthly Report; March 1 - March 31, 2008 Reporting Period**

Dear Mr. del Rosario:

Attached is the Monthly Report for the Sauget Area 2 Site October 3, 2002 Unilateral Administrative Order (UAO) - Groundwater Operable Unit. This submittal is in fulfillment of the monthly reporting requirements of the UAO, Section XII, paragraph 62, Progress Reports. This report is for the period March 1 – March 31, 2008.

Sincerely,

A handwritten signature in black ink, appearing to read "S. D. Smith", with a stylized flourish at the end.

Steven D. Smith  
Project Coordinator

cc: Ken Bardo, - U. S. EPA  
Mayor Sauget - Sauget, IL  
Sandra Bron – IEPA  
Mike Coffey - USFWS  
Village of Sauget – c/o P. H. Weis & Associates (Attn: Brian Nelson)  
Mayor Frank Bergman – Cahokia  
L. Glen Kurowski - Monsanto  
Cathleen Bumb – Solutia  
Linda Tape - Husch & Eppenberger  
Richard Williams – Solutia

## **Sauget Area 2 Site - Sauget, Illinois**

### **October 3, 2002 UAO – Groundwater Operable Unit**

#### **Status Report**

**Date of Report:** April 10, 2008  
**Period Covered:** March 1 - March 31, 2008

#### **Work Performed During the Reporting Period**

##### **Site Work**

- No site work was carried out during the reporting period.

##### **Groundwater Treatment**

- As agreed upon with USEPA, the Groundwater Migration Control System (GMCS) continues to be operated to maintain the total pumping rate equal to the computed inflow rate, based on the average of the gradients measured in the two existing pairs of piezometers located immediately upgradient of the Site R landfill. The system was operated in the above manner for the month of March. The pumps only operated during the first four days of the month. The system was shut down for the rest of March because of the high river stage.
- The water level alarm installed in the valve vault of well EW-3 was triggered on three separate occasions during the month (March 5<sup>th</sup>, March 10<sup>th</sup>, and March 19<sup>th</sup>). The water level alarm on EW-2 was also triggered on March 19<sup>th</sup>. The system was off during all of these events and, hence, the alarms did not affect the operation. Visual checks on the days following the alarms revealed that the incidents on March 5<sup>th</sup> and 10<sup>th</sup> were false alarms. However, approximately 12 inches of water was observed in the EW-3 vault on March 19<sup>th</sup> and the EW-2 vault was completely flooded on as well. The water was pumped out of both vaults and the system checked to make sure that the pumps operated properly. The most likely cause for water in the vaults is leakage through the covers from heavy rains. The likely cause of the false alarms was a power supply transient tripping the breaker.

- Over the past several months, ongoing problems have been experienced with piezometer pair PZ-8. This pair is used in the computation of the groundwater gradient immediately upgradient of the GMCS and, hence, in the computation of the inflow rate into the system. The cause of the problems was almost invariably the presence of moisture in the electronics module of the sensors. In order to permanently solve this problem, it was decided to raise the electronics modules of three of the four piezometer pairs upgradient of the GMCS above grade (the PZ-6, PZ-7, and PZ-8 pairs). The fourth pair (PZ-5) is not subject to inundation. Work began on this project during the reporting period and will be completed in April.
- Comments on various documents submitted to the Agency were received on February 12<sup>th</sup>. These documents include:
  - Three Technical Memorandums (TMs) for Interim Operating Periods (IOPs) 1, 2 and 3
  - Quarterly Groundwater Sampling Reports
  - Semi-Annual River Sampling Reports
  - Draft Extraction Well Step Test Memo
  - Draft Operations and Maintenance Plan
  - Draft Barrier Wall Completion Report

These comments have been reviewed and the following documents are being prepared for submission to the Agency:

- An Operating Report covering the period between February 2006 and December 2007.
- A Remedial Action Report.

A Work Plan for computing the mass flux to the river sediments and surface water following construction of the Interim Remedy was submitted on March 17<sup>th</sup>, 2008

- First quarter 2008 groundwater samples from the performance monitoring wells were collected during the reporting period. Collection of surface water and sediment samples in the Mississippi River was postponed because of the high river stage. Collection of these samples will be rescheduled when the river stage declines sufficiently to ensure that groundwater is discharging to the river.
- Water level and pumping data for the reporting period are attached.

### **Schedule**

The documents listed above will be used to establish that the Remedial Action at Site R is complete.

### **Submittals During Reporting Period**

- A Work Plan for computing the mass flux to the river sediments and surface water was submitted.
- The validated results from the fourth quarter 2007 groundwater samples from the performance monitoring wells were submitted on March 19, 2008.

### **Work Scheduled for Next Reporting Period**

- Continue operating the extraction system to maintain the total pumping rate equal to the computed inflow rate.
- Analyze first quarter 2008 groundwater samples from the performance monitoring wells, as well as the first semi-annual sediment and surface water samples from the Mississippi River.
- Monitor the Mississippi River stage in order to determine an appropriate time for collection of the first 2008 semi-annual surface water and sediment samples.

## **PUMPING DATA**

# GROUNDWATER MIGRATION CONTROL SYSTEM

## MARCH 2008 DAILY AVERAGE PUMPING RATES AND GROUNDWATER LEVELS

Date/Time		PUMPING RATES					SWL
		Computed Q	Total Q	EW-1 Q	EW-2 Q	EW-3 Q	
03/01/2008	Daily Average	60.95	57.63	12.08	33.37	12.18	390.82
03/02/2008	Daily Average	116.59	118.18	49.59	18.98	49.61	390.37
03/03/2008	Daily Average	38.38	42.83	12.95	16.95	12.92	392.34
03/04/2008	Daily Average	38.38	42.83	12.95	16.95	12.92	392.34
03/05/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	398.44
03/06/2008	Daily Average	0.00	10.86	5.20	5.66	0.00	400.12
03/07/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	400.19
03/08/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	399.93
03/09/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	399.21
03/10/2008	Daily Average	0.00	0.02	0.00	0.00	0.02	397.84
03/11/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	396.18
03/12/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	394.76
03/13/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	393.92
03/14/2008	Daily Average	4.74	10.97	0.00	10.97	0.00	393.26
03/15/2008	Daily Average	1.87	5.94	0.00	5.94	0.00	393.78
03/16/2008	Daily Average	0.18	1.83	0.00	1.83	0.00	394.37
03/17/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	395.19
03/18/2008	Daily Average	546.28	13.68	6.67	0.00	7.01	396.73
03/19/2008	Daily Average	0.00	2.29	1.15	1.13	0.00	400.87
03/20/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	403.12
03/21/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	403.48
03/22/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	403.49
03/23/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	403.55
03/24/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	402.79
03/25/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	401.38
03/26/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	399.80
03/27/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	398.89
03/28/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	398.48
03/29/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	397.90
03/30/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	397.24
03/31/2008	Daily Average	0.00	0.00	0.00	0.00	0.00	396.94

# GROUNDWATER MIGRATION CONTROL SYSTEM

## MARCH 2008 DAILY AVERAGE PUMPING RATES AND GROUNDWATER LEVELS

		GROUNDWATER LEVELS											
Date/Time		PZ-5U	PZ-5D	Delta	PZ-6U	PZ-6D	Delta	PZ-7U	PZ-7D	Delta	PZ-8U	PZ-8D	Delta
03/01/2008	Daily Average	391.41	391.30	-0.11	391.44	391.21	-0.24	391.27	391.06	-0.21	391.27	391.24	-0.02
03/02/2008	Daily Average	391.37	391.26	-0.11	391.44	391.26	-0.19	391.28	391.06	-0.22	391.27	391.14	-0.13
03/03/2008	Daily Average	391.48	391.45	-0.03	391.57	393.07	1.50	391.36	391.11	-0.25	391.34	391.57	0.22
03/04/2008	Daily Average	391.48	391.45	-0.03	391.57	393.07	1.50	391.36	391.11	-0.25	391.34	391.57	0.22
03/05/2008	Daily Average	392.29	392.82	0.53	392.04	392.71	0.67	391.77	391.68	-0.09	392.13	393.62	1.50
03/06/2008	Daily Average	392.76	393.58	0.82	392.34	393.35	1.00	392.08	392.03	-0.05	392.63	394.64	2.01
03/07/2008	Daily Average	393.16	394.08	0.92	392.70	392.92	0.23	392.42	392.40	-0.03	393.07	395.22	2.14
03/08/2008	Daily Average	393.45	394.30	0.85	392.96	392.81	-0.15	392.70	392.66	-0.03	393.34	395.35	2.01
03/09/2008	Daily Average	393.61	394.35	0.74	393.16	392.97	-0.19	392.90	392.84	-0.06	393.48	395.22	1.73
03/10/2008	Daily Average	393.57	394.16	0.59	393.26	393.08	-0.18	393.03	392.94	-0.09	393.52	394.84	1.32
03/11/2008	Daily Average	393.60	393.93	0.33	393.37	393.22	-0.15	393.18	393.06	-0.12	393.51	394.37	0.86
03/12/2008	Daily Average	393.48	393.65	0.17	393.42	393.24	-0.18	393.24	393.07	-0.17	393.41	393.87	0.46
03/13/2008	Daily Average	393.34	393.39	0.05	393.34	393.17	-0.17	393.17	393.00	-0.16	393.25	393.47	0.22
03/14/2008	Daily Average	393.29	393.30	0.01	393.37	393.15	-0.22	393.19	392.99	-0.20	393.22	393.27	0.06
03/15/2008	Daily Average	393.27	393.30	0.03	393.33	393.12	-0.21	393.15	392.95	-0.20	393.18	393.33	0.14
03/16/2008	Daily Average	393.24	393.30	0.06	393.22	393.04	-0.18	393.05	392.87	-0.18	393.13	393.35	0.22
03/17/2008	Daily Average	393.52	393.65	0.13	393.45	393.27	-0.17	393.26	393.10	-0.16	393.37	393.77	0.39
03/18/2008	Daily Average	393.82	394.12	0.30	393.87	396.53	2.66	393.58	393.32	-0.25	396.84	397.83	0.99
03/19/2008	Daily Average	394.50	395.33	0.83	394.16	395.36	1.20	393.82	393.74	-0.08	394.45	397.40	2.95
03/20/2008	Daily Average	395.26	396.46	1.20	394.62	394.74	0.12	394.27	394.28	0.01	395.09	397.72	2.63
03/21/2008	Daily Average	395.82	397.13	1.31	395.16	395.02	-0.13	394.77	394.81	0.04	395.66	398.40	2.74
03/22/2008	Daily Average	396.17	397.42	1.25	395.45	395.28	-0.17	395.12	395.13	0.02	396.01	398.69	2.68
03/23/2008	Daily Average	396.55	397.81	1.25	395.85	395.69	-0.16	395.51	395.53	0.02	396.41	399.02	2.61
03/24/2008	Daily Average	396.79	397.94	1.15	396.16	396.00	-0.16	395.86	395.85	-0.01	396.67	399.03	2.37
03/25/2008	Daily Average	396.95	397.81	0.86	396.41	396.25	-0.16	396.17	396.10	-0.06	396.82	398.70	1.87
03/26/2008	Daily Average	396.80	397.42	0.62	396.53	396.25	-0.18	396.25	396.14	-0.11	396.74	398.21	1.47
03/27/2008	Daily Average	396.85	397.31	0.46	396.68			396.41	396.29	-0.12	396.83	398.01	1.19
03/28/2008	Daily Average	396.67	397.04	0.37	396.59	396.30	-0.29	396.30	396.17	-0.13	396.64	397.66	1.02
03/29/2008	Daily Average	396.70	397.01	0.31	396.63	396.36	-0.28	396.40	396.28	-0.12	396.72	397.55	0.83
03/30/2008	Daily Average	396.72	396.89	0.18	396.74	396.40	-0.34	396.45	396.33	-0.12	396.69	397.32	0.63
03/31/2008	Daily Average	396.73	396.86	0.13	396.76	396.47	-0.28	396.55	396.38	-0.17	396.70	397.22	0.51

# GROUNDWATER MIGRATION CONTROL SYSTEM

## MARCH 2008 DAILY AVERAGE PUMPING RATES AND GROUNDWATER LEVELS

Date/Time		GROUNDWATER LEVELS							
		PZ-1_OUTSI	PZ-2_OUTSI	PZ-3_OUTSI	PZ-4_OUTSI	PZ-1_OUTSI	PZ-2_OUTSI	PZ-3_OUTSI	PZ-4_OUTSI
		DE	1_INSIDE	DE	2_INSIDE	DE	3_INSIDE	DE	4_INSIDE
03/01/2008	Daily Average	391.37	389.58	390.80	391.13	390.72	390.32	390.98	391.01
03/02/2008	Daily Average	391.16	389.46	390.51	391.08	390.41	390.25	389.95	389.68
03/03/2008	Daily Average	392.46	389.34	392.15	391.19	391.99	390.35	391.69	391.10
03/04/2008	Daily Average	392.46	389.34	392.15	391.19	391.99	390.35	391.69	391.10
03/05/2008	Daily Average	397.97	389.55	399.74	391.93	399.12	391.20	396.64	392.63
03/06/2008	Daily Average	399.84	389.97	402.53	392.34	401.79	391.64	398.56	393.23
03/07/2008	Daily Average	399.50	390.45	402.88	392.78	402.15	392.10	399.11	393.71
03/08/2008	Daily Average	398.83	390.73	402.31	393.03	401.60	392.35	398.91	393.96
03/09/2008	Daily Average	398.25	390.90	401.19	393.19	400.57	392.50	398.38	394.07
03/10/2008	Daily Average	397.07	390.96	399.11	393.27	398.64	392.56	397.25	394.04
03/11/2008	Daily Average	395.71	391.10	396.71	393.39	396.41	392.67	395.90	394.01
03/12/2008	Daily Average	394.56	391.06	394.86	393.75	394.69	392.60	394.59	393.55
03/13/2008	Daily Average	393.81	390.91	393.73	393.89	393.62	392.46	393.66	393.11
03/14/2008	Daily Average	393.52	390.87	393.25	393.92	393.21	392.41	393.35	393.06
03/15/2008	Daily Average	393.74	390.79	393.76	393.87	393.63	392.36	393.56	393.01
03/16/2008	Daily Average	394.00	390.68	394.27	393.75	394.12	392.25	393.85	392.98
03/17/2008	Daily Average	394.71	391.01	395.30	394.02	395.05	392.60	394.57	393.32
03/18/2008	Daily Average	396.08	391.24	397.40	394.28	397.06	392.83	396.02	393.53
03/19/2008	Daily Average	400.02	391.73	403.86	394.77	403.13	393.36	400.01	394.46
03/20/2008	Daily Average	402.65	392.42	407.75	395.42	406.72	394.10	402.45	395.35
03/21/2008	Daily Average	403.33	393.07	408.39	396.04	407.37	394.72	403.10	396.00
03/22/2008	Daily Average	403.42	393.34	408.36	396.31	407.32	395.02	403.28	396.31
03/23/2008	Daily Average	403.65	393.80	408.33	396.75	407.35	395.47	403.54	396.74
03/24/2008	Daily Average	403.09	394.13	407.12	397.07	406.29	395.78	403.00	397.00
03/25/2008	Daily Average	401.81	394.36	404.76	397.30	404.08	396.00	401.75	397.09
03/26/2008	Daily Average	400.28	394.27	402.25	397.27	401.75	395.87	400.18	396.89
03/27/2008	Daily Average	399.43	394.39	400.71	397.38	400.35	395.96	398.99	
03/28/2008	Daily Average	398.90	394.11	400.03	397.15	399.69	395.72	398.47	396.42
03/29/2008	Daily Average	398.43	394.24	399.16	397.27	398.89	395.84	398.02	396.70
03/30/2008	Daily Average	397.81	394.27	398.15	397.32	397.95	395.86	397.46	396.64
03/31/2008	Daily Average	397.58	394.31	397.80	397.33	397.62	395.86	397.28	396.61